COMPUTER PRINT-OUT

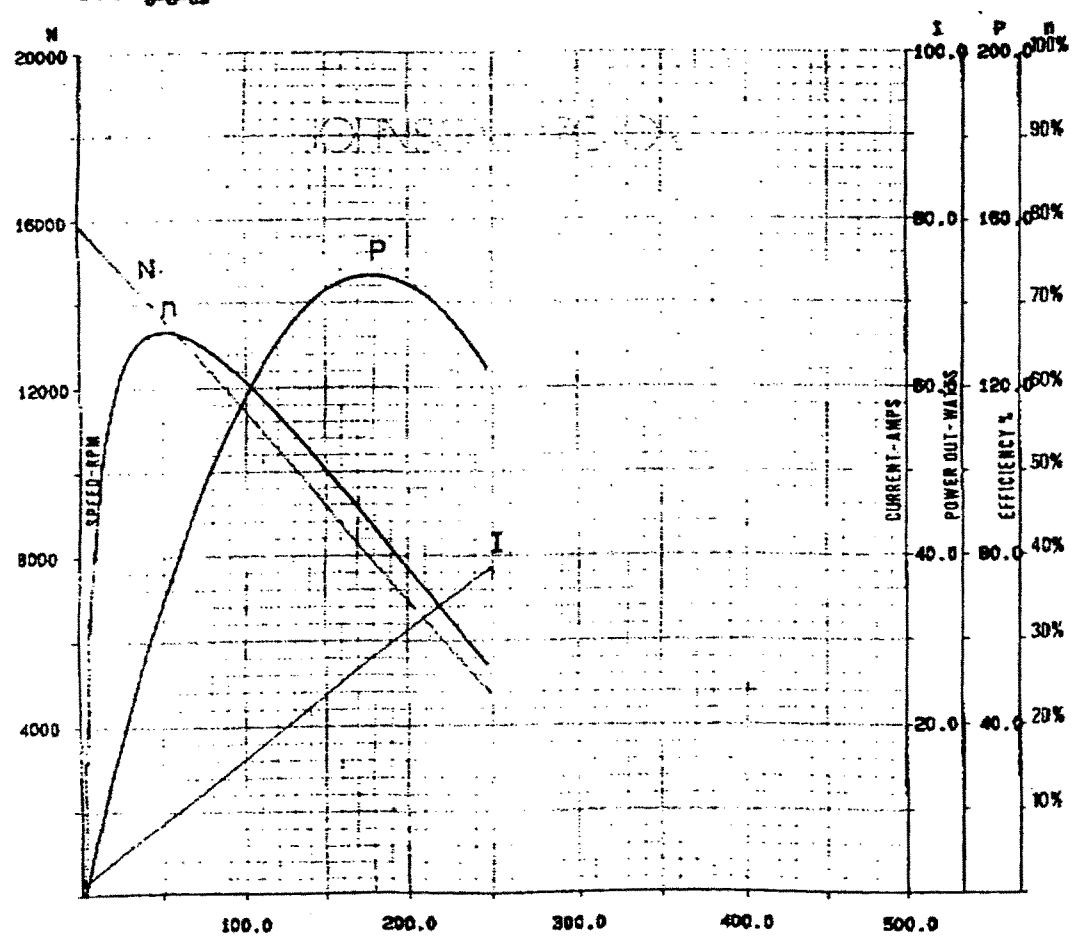
NOMINAL MOTOR CURVES, PERFORMANCE AND CHARACTERISTICS

[redacted] : 89J154

MOTOR CODE NUMBER: HC713 7315

TEST REFERENCE NUMBER: FT/15000/78-36/12.0/3E1

DATE: 8-8-89




PERFORMANCE

AT A MOTOR TERMINAL VOLTAGE OF : 12 VOLTS.
IN AN AMBIENT TEMPERATURE OF : 23 DEGS. CENT

MOTOR TESTED RAPIDLY TO PREVENT SIGNIFICANT TEMPERATURE RISE.

AT NO LOAD

| | | |
|---|---|---|
| SPEED | = 15900 | R.P.M. |
| CURRENT | = 1.38 | AMPS. |

AT STALL (EXTRAPOLATED).

| | | |
|---|---|---|
| TORQUE | = 959.22 | M.N.M. |
| CURRENT | = 54.53 | AMPS. |

AT MAXIMUM EFFICIENCY

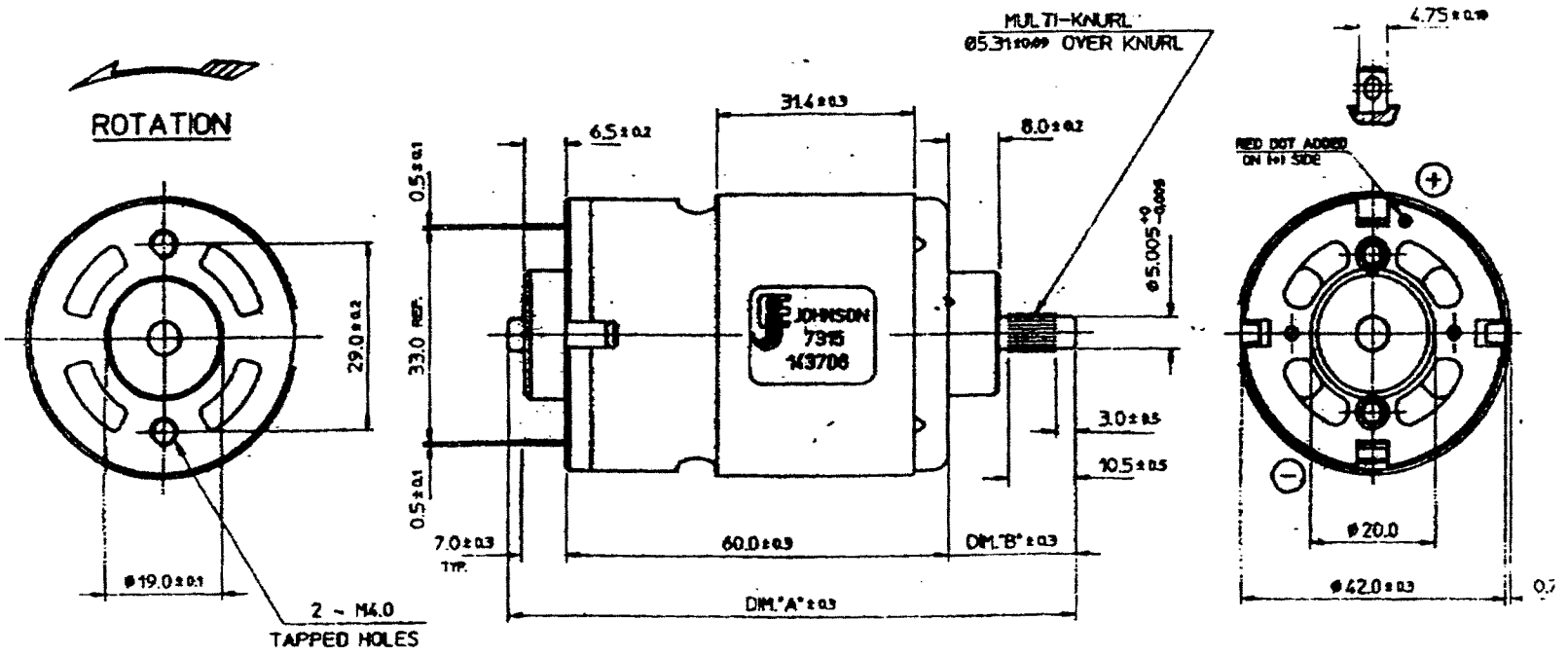
| | | |
|---|---|---|
| EFFICIENCY | = 88.9 % | |
| SPEED | = 13710 | R.P.M. |
| TORQUE | = 46.46 | M.N.M. |
| CURRENT | = 8.67 | AMPS. |

AT MAXIMUM POWER OUTPUT.

| | | |
|---|---|---|
| SPEED | = 7950 | R.P.M. |
| TORQUE | = 176.61 | M.N.M. |
| CURRENT | = 27.85 | AMPS. |
| OUTPUT | = 147.03 | WATTS |

CHARACTERISTICS

| | | |
|---|---|---|
| TORQUE CONSTANT | = 6.646 | M.N.M/AMP. |
| E.M.F. CONSTANT | = 6.646 | MV/RAD/SE |
| DYNAMIC RESISTANCE | = 0.220 | OHMS. |
| MOTOR REGULATION | = 45.015 | RPM./M.N.M. |
| MOMENT OF INERTIA | = no data | KG. M.N. |
| ELECTMECH. TIME CONSTANT | = no data | SECS. |




NOTES:-

1. LENGTH OF SHAFT, DIM. "A" 89.0 mm.
2. FRONT EXTENSION, DIM. "B" 20.0 mm. MEASURED WITH SHAFT PUSHED AGAINST PLASTIC END CAP.
3. DIRECTION OF ROTATION : ANTI-CLOCKWISE WHEN VIEWING MOTOR OUTPUT END WITH POSITIVE VOLTAGE APPLIED TO POSITIVE TERMINAL.
4. END PLAY : 0.50 mm. MAX.

| ALT | REF | DESCRIPTION | BY | DATE |
|---|---|---|---|---|
| MATERIAL | FINISH | TOLERANCES: 1 DEC PLACE ± 0.15; 2 DEC PLACES; 3 DEC PLACES; ANGULAR ± 2° | | A3 |

TITLE
HC713-7315
MOTOR OUTLINE

| | | |
|---|---|---|
| SCALE | 1S : 1 | DATE |
| DWN. BY | K.W.P | 5/5/87 |
| CHK. BY | Jam | 5/1/87 |
| APP. BY | | |
| DWG NO. | 89J154/03/01 A | |

JOHNSON ELECTRIC IND. MFTY., LTD.
JOHNSON BUILDING CHAI WAN, HONGKONG

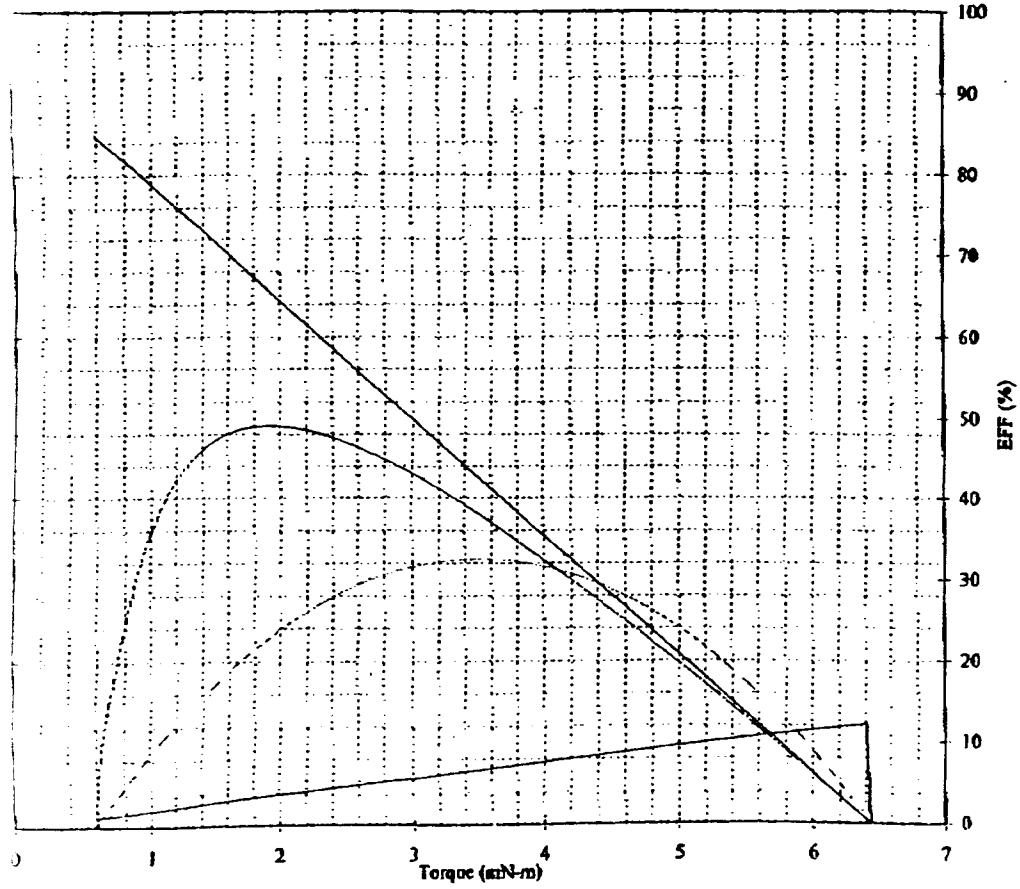
ALL DIMENSIONS ARE IN MILLIMETRES DO NOT SCALE DRAWING

o.: 96J0122 Date : 12-Oct-99

: 2 Full scale : 100 % Eff

: PC200LG-21249 1.0 Watts

(ECN NO.: 99/1315) 1.0 Amp.



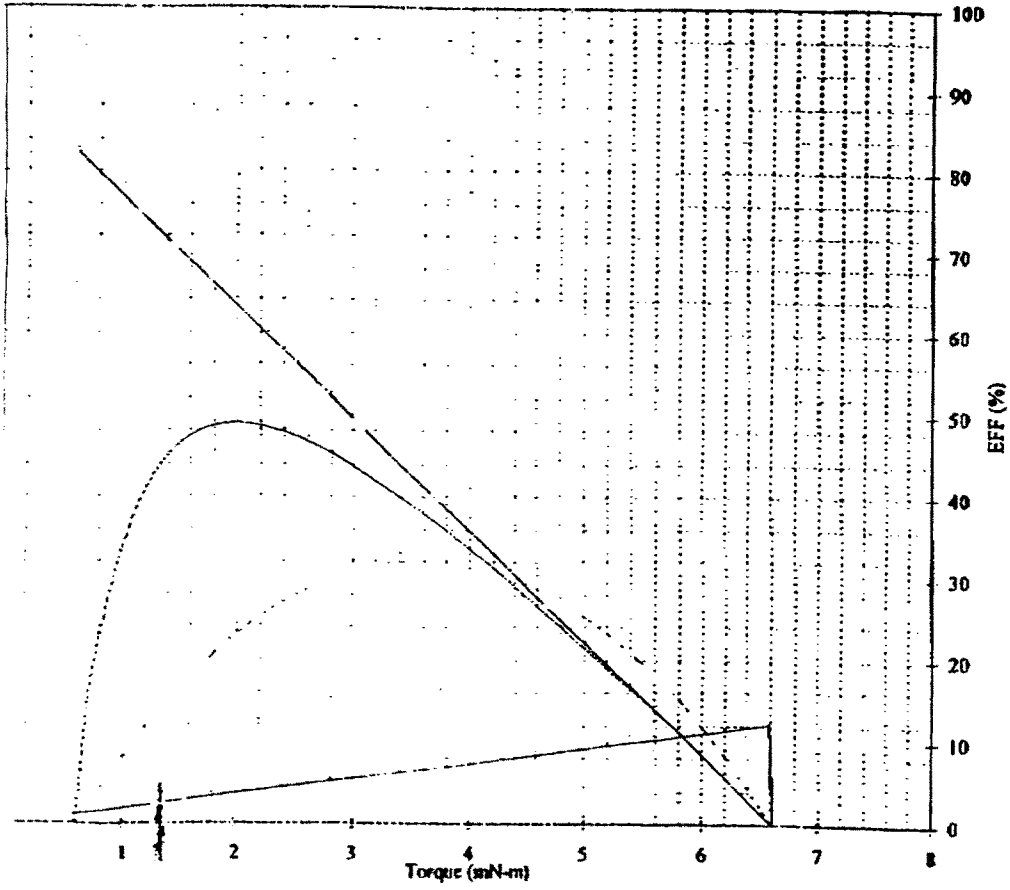

Performance (in an ambient temperature of 25-30 ° C )

Motor tested rapidly to prevent significant temperature rise.

| | | | |
|---|---|---|---|
| At a constant voltage of : | | 12.80 | Volts |
| Direction | | CCW | |
| **At No Load** | | | |
| Speed | : | 2127 | RPM |
| Current | : | 0.011 | AMPS |
| **At stall (Extrapolated)** | | | |
| Torque | : | 5.86 | mN-m |
| Current | : | 0.123 | AMPS |
| **At maximum efficiency** | | | |
| Efficiency: | | 49.1 | % |
| Torque | : | 1.928 | mN-m |
| Speed | : | 1637 | RPM |
| Current | : | 0.037 | AMPS |
| **At maximum Power output** | | | |
| Output | : | 0.325 | Watts |
| Torque | : | 2.928 | mN-m |
| Speed | : | 1273 | RPM |
| Current | : | 0.06 | AMPS |
| **Characteristics** | | | |
| Torque constant | : | 52.500 | mN-m/AMP |
| E.M.F. constant | : | 52.500 | mV/rad/sec |
| Dynamic resistance: | | 104.4501 | Ohms |
| Motor regulation | : | 363.23 | RPM/mN-m |

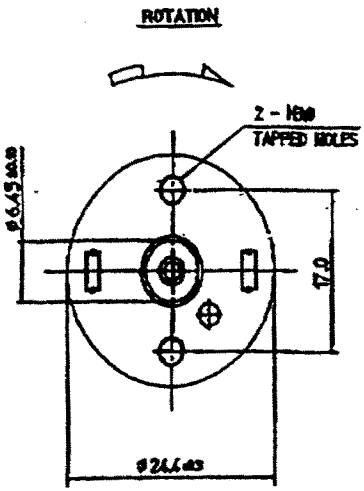
No.: 96J0122
: I
: PC200LG-21249
(ECN NO.: 99/1315)

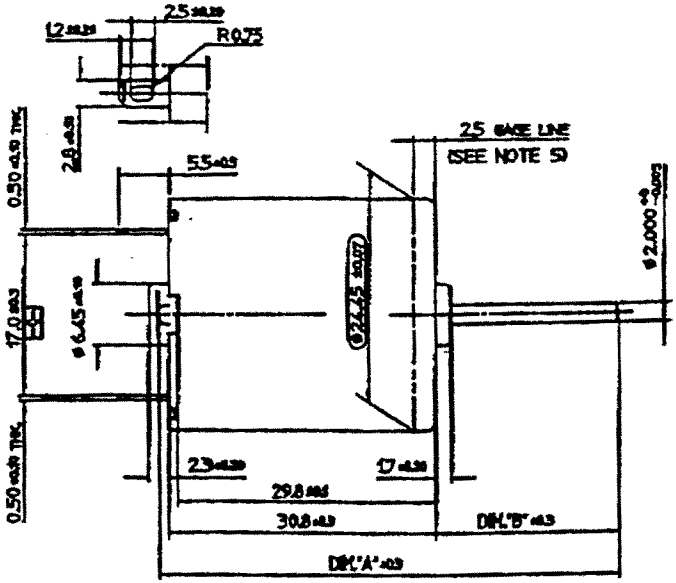
Date : 12-Oct-99
Full scale : 100 % Eff
1.0 Watts
1.0 Amp.

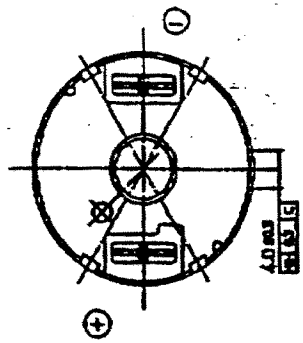



Performance (in an ambient temperature of 25-30 ° C)
Motor tested rapidly to prevent significant temperature rise.

| | | | |
|---|---|---|---|
| At a constant voltage of : | | 12.80 | Volts |
| Direction | | CCW | |
| **At No Load** | | | |
| Speed | : | 2058 | RPM |
| Current | : | 0.011 | AMPS |
| **At stall (Extrapolated)** | | | |
| Torque | : | 6.02 | mN-m |
| Current | : | 0.122 | AMPS |
| **At maximum efficiency** | | | |
| Efficiency: | | 48.9 | % |
| Torque | : | 1.991 | mN-m |
| Speed | : | 1582 | RPM |
| Current | : | 0.037 | AMPS |
| **At maximum Power output** | | | |
| Output | : | 0.322 | Watts |
| Torque | : | 3.010 | mN-m |
| Speed | : | 1234 | RPM |
| Current | : | 0.06 | AMPS |
| **Characteristics** | | | |
| Torque constant | : | 54.445 | mN-m/AMP |
| E.M.F. constant | : | 54.445 | mV/rad/sec |
| Dynamic resistance: | | 105.3029 | Ohms |
| Motor regulation | : | 341.93 | RPM/mN-m |



DC/ENG. APPROVED
BY:
DATE: 29.10.96

NOTES :

1. LENGTH OF SHAFT, DIM."A" 52.0 mm.
   FRONT EXTENSION, DIM."B" 20.1 mm. MEASURED WITH SHAFT PUSHED AGAINST END CAP.
2. ROTATION : CLOCKWISE WHEN VIEWING SHAFT OUTPUT END WITH POSITIVE VOLTAGE APPLIED TO POSITIVE TERMINAL.
3. END PLAY : 0.10 ~ 0.50 mm.
4. TAPPED HOLES CAN ACCEPT MAX. MALE USABLE SCREW LENGTH OF 2.5 mm.
5. ⬭ CRITICAL DIM. (DIM. TO BE INSPECTED AT THE GAGE LINE AS SHOWN)

| ALT. REF. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| A1 | FIRST ISSUE | | |

| MATERIAL | FINISH | TOLERANCES | A3 |
|---|---|---|---|
| | | 1 DEC. PLACE ± 0.5<br>2 DEC. PLACES ±<br>3 DEC. PLACES ±<br>ANGULAR ± 2° | |

TITLE
(PC 200 LG)
MOTOR OUTLINE

| SCALE | 2:1 | DATE |
|---|---|---|
| DWN. BY | Kenneth C. | 29/10/96 |
| CHK. BY | | |
| APP. BY | | |

JOHNSON ELECTRIC ENGINEERING LTD.
A JOHNSON ELECTRIC GROUP COMPANY.
JOHNSON BUILDING, TAI PO, HONGKONG.

DWG. NO.
96J0122/50/27-999A

ALL DIMENSIONS ARE IN MILLIMETRES

DO NOT SCALE DRAWING